

18. Calculate the standard deviation for the following data :

X	10	20	30	40	50	60
F	8	12	20	10	7	3

19. A certain manure was used on 4 plots of land A, B, C and D. 4 beds were prepared in each plot and manure used. The output of crop in beds of plot A, B, C and D is given below :-

A	B	C	D
6	15	9	8
8	10	3	12
10	4	7	1
8	7	1	3

Using ANOVA find out whether the difference in means of production of crops of plants and significant or not.

20. Write in detail about the methods of RSM.

APRIL/MAY 2025

**23PMB42 — RESEARCH METHODOLOGY
AND BIOSTATISTICS**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is basic research?
2. Define the term raw data.
3. What is meant by probability?
4. Define cluster sampling.
5. Define mode.
6. State the merits of median.
7. Mention the significance of ANOVA.
8. List out the steps involved in chi square-test?
9. What is meant by surface contours?
10. Mention any two computer oriented statistical techniques.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions.

11. (a) Write in brief about the importance of research methodology.

Or

- (b) Explain the primary data collection method.

12. (a) Discuss about the types of random sampling.

Or

- (b) Give an account on the plagiarism.

13. (a) Write a note on Histogram.

Or

- (b) Compute the mean for following data:

No of children born per family (x) 0 1 2 3 4 5 6

No of family (y) 7 7 10 5 3 2 1

14. (a) Explain the type of correlation.

Or

- (b) A sample of 100 individuals is drawn from population whose mean is 162 and SD is 4.16, the mean of the sample is 162.23, does the sample mean represent a significance Divergence from population mean. Explain.

15. (a) Explain the basic concept of probability.

Or

- (b) A bag contains 10 white, 5 red and 20 black balls. Two balls are drawn at random. Find the probability that they are both black.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Write a detail note on various data collection methods.

17. Write down the guidelines followed in writing the article and report.

